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L2 STRUCTURE UPLOADED

=> que L2 AND L1

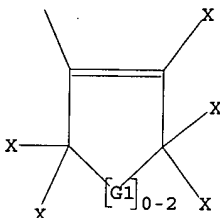
L3 QUE L2 AND L1

=> d

L3 HAS NO ANSWERS

L1 SCR 2067

L2 STR



G1 CF2,CBr2,CI2

Structure attributes must be viewed using STN Express query preparation.
L3 QUE ABB=ON PLU=ON L2 AND L1

=> s l3 sss sam

SAMPLE SEARCH INITIATED 11:27:34 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 91 TO ITERATE

100.0% PROCESSED 91 ITERATIONS

7 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**

PROJECTED ITERATIONS: 1248 TO 2392

PROJECTED ANSWERS: 7 TO 298

L4 7 SEA SSS SAM L2 AND L1

=> d

L4 ANSWER 1 OF 7 REGISTRY COPYRIGHT 2003 ACS on STN

RN 430427-86-4 REGISTRY

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with 2,5-furandione and octafluorocyclopentene (9CI) (CA INDEX
NAME)

MF (C12 H18 O2 . C5 F8 . C4 H2 O3)x

CI PMS

PCT Polyether, Polyvinyl

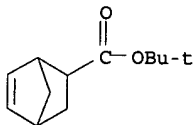
SR CA

LC STN Files: CA, CAPLUS

CM 1

CRN 154970-45-3

CMF C12 H18 O2

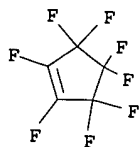


CM 2

CRN 559-40-0

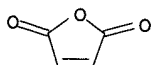
CMF C5 F8

STN Search



CM 3

CRN 108-31-6
CMF C4 H2 O3



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> FIL CAPLUS HCAPLUS USPATFUL
COST IN U.S. DOLLARS

| SINCE FILE ENTRY | TOTAL SESSION |
|------------------|---------------|
| 2.08 | 2.50 |

FULL ESTIMATED COST

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FILE 'USPATFULL' ENTERED AT 11:27:56 ON 22 SEP 2003
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> s 14

L5 19 L4

=> s 15 and (photoresist or resist)

L6 4 L5 AND (PHOTORESIST OR RESIST)

=> d l6 1-4 ibib hitstr abs

L6 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:397839 CAPLUS

DOCUMENT NUMBER: 136:409059

TITLE: Fluorine-containing cycloolefin polymer,
photoresist material containing the polymer,
and formation of pattern

INVENTOR(S): Hatakeyama, Jun; Watanabe, Atsushi; Harada, Yuji;
Kawai, Yoshio; Sasako, Masaru; Endo, Masataka;
Kishimura, Shinji; Otani, Michitaka; Miyazawa, Satoru;

PATENT ASSIGNEE(S): Tsutsumi, Kentaro; Maeda, Kazuhiko
Shin-Etsu Chemical Industry Co., Ltd., Japan;
Matsushita Electric Industrial Co., Ltd.; Central
Glass Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|------------|
| JP 2002155120 | A2 | 20020528 | JP 2001-266772 | 20010904 |
| PRIORITY APPLN. INFO.: | | | JP 2000-271209 | A 20000907 |

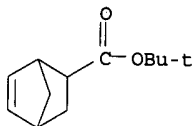
IT 430427-86-4P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(fluorine-contg. cycloolefin polymer for (chem.-amplified) pos.-working
photoresist)

RN 430427-86-4 CAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
 polymer with 2,5-furandione and octafluorocyclopentene (9CI) (CA INDEX
 NAME)

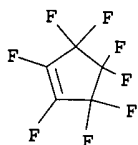
CM 1

CRN 154970-45-3
 CMF C12 H18 O2



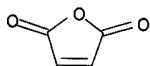
CM 2

CRN 559-40-0
 CMF C5 F8

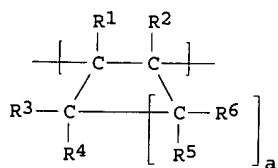


CM 3

CRN 108-31-6
 CMF C4 H2 O3



GI



I

AB The polymer has a cycloolefin-derived repeating unit I (R1-R6 = H, F, Cl, C1-20 linear, branched, or cyclic alkyl, fluorinated alkyl; .gtoreq.1 of R1-R6 contain F; 0.ltoreq. a .ltoreq.10) and another repeating unit having an acid-unstable group. The photoresist contains the polymer and an org. solvent and an acid-generating agent may be further added to the compn. to give a chem.-amplified pos.-working photoresist. The compn. is applied on a substrate, heated, exposed to high energy beam at 110-190 nm or 1-15 nm wavelength through a photomask, and developed optionally after heating to give a pattern. The photoresist shows enhanced transparency to vacuum UV rays and dry etching resistance.

L6 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:864931 CAPLUS

DOCUMENT NUMBER: 136:12834

TITLE: Positive-working photoresist compositions
 for use under vacuum UV lasers and method for pattern
 formation

INVENTOR(S): Otani, Michitaka; Tsutsumi, Kentaro; Maeda, Kazuhiko

PATENT ASSIGNEE(S): Central Glass Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

11/30/01

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| JP 2001330955 | A2 | 20011130 | JP 2000-149968 | 20000522 |

PRIORITY APPLN. INFO.: JP 2000-149968 20000522

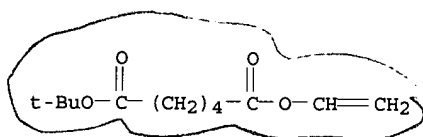
IT 374923-68-9P, tert-Butyl vinyl adipate-octafluorocyclopentene copolymer
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
 (pos.-working perfluorocyclopentene-vinyl copolymer compns. for lithog. imaging by irradiation of vacuum UV)

RN 374923-68-9 CAPLUS

CN Hexanedioic acid, 1,1-dimethylethyl ethenyl ester, polymer with octafluorocyclopentene (9CI) (CA INDEX NAME)

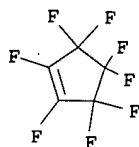
CM 1

CRN 374923-67-8
 CMF C12 H20 O4

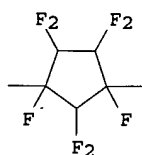


CM 2

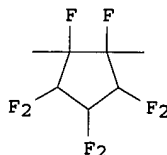
CRN 559-40-0
 CMF C5 F8



GI



I



II

AB The compns. comprise fluoropolymers which change soly against aq. alk. soln. by reaction with acids and acid generators. The polymers consist of .gtoreq.1 mol% of structural repeating units I or II and .ltoreq.99 mol% monomers derived from vinyl compds. Preferable comonomers are also given in Markush structures. Formation of pattern is carried out by application of the compn. on a substrate, patterned exposure of the resist layer with light having wavelength 1-190 nm, and development of the irradiated layer. The compns. have high transparency against vacuum UV (VUV), esp. against F2 excimer lasers, and have high sensitivity.

L6 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:397839 HCAPLUS

DOCUMENT NUMBER: 136:409059

TITLE: Fluorine-containing cycloolefin polymer,
 photoresist material containing the polymer,
 and formation of pattern

INVENTOR(S): Hatakeyama, Jun; Watanabe, Atsushi; Harada, Yuji;

Kawai, Yoshio; Sasako, Masaru; Endo, Masataka;
 Kishimura, Shinji; Otani, Michitaka; Miyazawa, Satoru;
 Tsutsumi, Kentaro; Maeda, Kazuhiko
 PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan;
 Matsushita Electric Industrial Co., Ltd.; Central
 Glass Co., Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

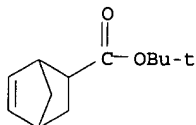
5/28/02

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------|------|----------|-----------------|----------|
| JP 2002155120 | A2 | 20020528 | JP 2001-266772 | 20010904 |
| PRIORITY APPLN. INFO.: JP 2000-271209 | | | A | 20000907 |

IT 430427-86-4P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (fluorine-contg. cycloolefin polymer for (chem.-amplified) pos.-working
 photoresist)
 RN 430427-86-4 HCAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
 polymer with 2,5-furandione and octafluorocyclopentene (9CI) (CA INDEX
 NAME)

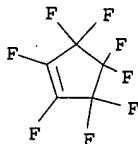
CM 1

CRN 154970-45-3
 CMF C12 H18 O2



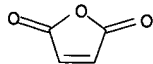
CM 2

CRN 559-40-0
 CMF C5 F8

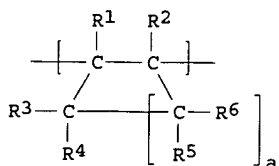


CM 3

CRN 108-31-6
 CMF C4 H2 O3



GI



I

AB The polymer has a cycloolefin-derived repeating unit I (R1-R6 = H, F, Cl, C1-20 linear, branched, or cyclic alkyl, fluorinated alkyl; .gtoreq.1 of R1-R6 contain F; 0.1toreq. a .ltoreq.10) and another repeating unit having an acid-unstable group. The photoresist contains the polymer and an org. solvent and an acid-generating agent may be further added to the compn. to give a chem.-amplified pos.-working photoresist. The compn. is applied on a substrate, heated, exposed to high energy beam at 110-190 nm or 1-15 nm wavelength through a photomask, and developed optionally after heating to give a pattern. The photoresist shows enhanced transparency to vacuum UV rays and dry etching resistance.

L6 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:864931 HCAPLUS

DOCUMENT NUMBER: 136:12834

TITLE: Positive-working photoresist compositions for use under vacuum UV lasers and method for pattern formation

INVENTOR(S): Otani, Michitaka; Tsutsumi, Kentaro; Maeda, Kazuhiko

PATENT ASSIGNEE(S): Central Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 2001330955 | A2 | 20011130 | JP 2000-149968 | 20000522 |
| PRIORITY APPLN. INFO.: | | | JP 2000-149968 | 20000522 |

IT 374923-68-9P, tert-Butyl vinyl adipate-octafluorocyclopentene copolymer

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(pos.-working perfluorocyclopentene-vinyl copolymer compns. for lithog. imaging by irradiation of vacuum UV)

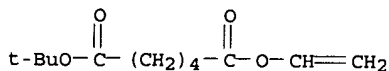
RN 374923-68-9 HCAPLUS

CN Hexanedioic acid, 1,1-dimethylethyl ethenyl ester, polymer with octafluorocyclopentene (9CI) (CA INDEX NAME)

CM 1

CRN 374923-67-8

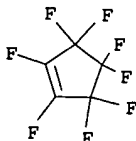
CMF C12 H20 O4



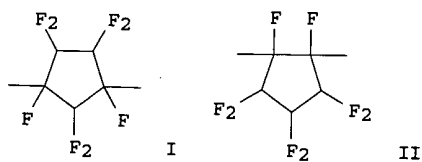
CM 2

CRN 559-40-0

CMF C5 F8



GI



AB The compns. comprise fluoropolymers which change soly against aq. alk. soln. by reaction with acids and acid generators. The polymers consist of .gtoreq.1 mol% of structural repeating units I or II and .ltoreq.99 mol% monomers derived from vinyl compds. Preferable comonomers are also given in Markush structures. Formation of pattern is carried out by application of the compn. on a substrate, patterned exposure of the resist layer with light having wavelength 1-190 nm, and development of the irradiated layer. The compns. have high transparency against vacuum UV (VUV), esp. against F2 excimer lasers, and have high sensitivity.

PROJECTED ITERATIONS: 536511 TO 556249
PROJECTED ANSWERS: 649 TO 1535

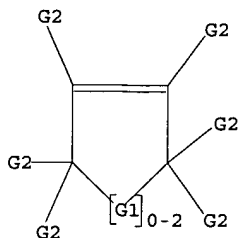
L10 2 SEA SSS SAM L8 AND L7

=> d 19

L9 HAS NO ANSWERS

L7 SCR 2067

L8 STR



G1 CF2,CBr2,CI2

G2 CF2,CF3,CCl2,CCl3,CBr2,CBr3,CI2,CI3,Cl,Br,F,I,X

Structure attributes must be viewed using STN Express query preparation.
L9 QUE ABB=ON PLU=ON L8 AND L7

=> d 110

L10 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2003 ACS on STN

RN 430427-86-4 REGISTRY

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with 2,5-furandione and octafluorocyclopentene (9CI) (CA INDEX
NAME)

MF (C12 H18 O2 . C5 F8 . C4 H2 O3)x

CI PMS

PCT Polyether, Polyvinyl

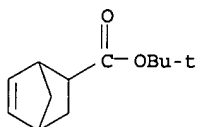
SR CA

LC STN Files: CA, CAPLUS

CM 1

CRN 154970-45-3

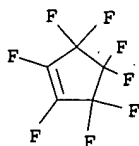
CMF C12 H18 O2



CM 2

CRN 559-40-0

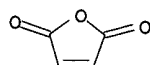
CMF C5 F8



CM 3

CRN 108-31-6

CMF C4 H2 O3



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> FIL CAPLUS HCAPLUS USPATFUL
COST IN U.S. DOLLARS

| | SINCE FILE ENTRY | TOTAL SESSION |
|---------------------|---------------------|------------------|
| FULL ESTIMATED COST | 2.08 | 31.49 |

| | SINCE FILE ENTRY | TOTAL SESSION |
|--|---------------------|------------------|
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | | |
| CA SUBSCRIBER PRICE | 0.00 | -2.60 |

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FILE 'HCAPLUS' ENTERED AT 11:32:38 ON 22 SEP 2003
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FILE 'USPATFULL' ENTERED AT 11:32:38 ON 22 SEP 2003
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> s l10
L11 5 L10

=> d his

(FILE 'HOME' ENTERED AT 11:26:15 ON 22 SEP 2003)

FILE 'REGISTRY' ENTERED AT 11:27:08 ON 22 SEP 2003
L1 SCREEN 2067
L2 STRUCTURE UPLOADED
L3 QUE L2 AND L1
L4 7 S L3 SSS SAM

FILE 'CAPLUS, HCAPLUS, USPATFULL' ENTERED AT 11:27:56 ON 22 SEP 2003
L5 19 S L4
L6 4 S L5 AND (PHOTORESIST OR RESIST)

FILE 'HOME' ENTERED AT 11:29:06 ON 22 SEP 2003

FILE 'REGISTRY' ENTERED AT 11:31:41 ON 22 SEP 2003
L7 SCREEN 2067
L8 STRUCTURE UPLOADED
L9 QUE L8 AND L7

FILE 'REGISTRY' ENTERED AT 11:32:10 ON 22 SEP 2003
L10 2 S L9 SSS SAM

FILE 'CAPLUS, HCAPLUS, USPATFULL' ENTERED AT 11:32:38 ON 22 SEP 2003
L11 5 S L10

=> s l11 not 16
L12 3 L11 NOT L6

=> d l12 1-3 ibib hitstr abs

L12 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:326291 CAPLUS
DOCUMENT NUMBER: 134:341129
TITLE: Fluoropolymers having saturated perfluoro rings with good solubility in organic solvents and their manufacture
INVENTOR(S): Akama, Hidehiro; Sugimoto, Hiromi; Tsutsumi, Kentaro
PATENT ASSIGNEE(S): Central Glass Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

5/8/01

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| JP 2001122928 | A2 | 20010508 | JP 2000-232570 | 20000801 |

PRIORITY APPLN. INFO.: JP 1999-231687 A 19990818

IT 337488-50-3P, Hydroxyethyl vinyl ether-isobutyl vinyl ether-octafluorocyclopentene copolymer
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (manuf. of fluoropolymers having satd. perfluoro rings with good soly. in org. solvents for transparent films)

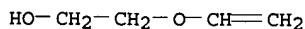
RN 337488-50-3 CAPLUS

CN Ethanol, 2-(ethenyloxy)-, polymer with 1-(ethenyloxy)-2-methylpropane and octafluorocyclopentene (9CI) (CA INDEX NAME)

CM 1

CRN 764-48-7

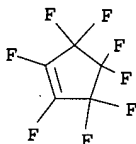
CMF C4 H8 O2



CM 2

CRN 559-40-0

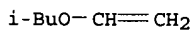
CMF C5 F8



CM 3

CRN 109-53-5

CMF C6 H12 O



AB The fluoropolymers (av. mol. wt. 1000-1,000,000; measured by gel permeation chromatog.), useful for transparent films, coatings, etc., contain repeating units of (A) 1-99 mol% 1,3- or 1,2-perfluorocyclopentylene and (B) 1-99 mol% divalent org. groups. Thus, an acetone soln. of vinyl acetate-octafluorocyclopentene copolymer was applied on a glass plate and dried to give a transparent film.

L12 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:326291 HCAPLUS

DOCUMENT NUMBER: 134:341129

TITLE: Fluoropolymers having saturated perfluoro rings with good solubility in organic solvents and their manufacture

INVENTOR(S): Akama, Hidehiro; Sugimoto, Hiromi; Tsutsumi, Kentaro

PATENT ASSIGNEE(S): Central Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

5/8/01

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| JP 2001122928 | A2 | 20010508 | JP 2000-232570 | 20000801 |

PRIORITY APPLN. INFO.: JP 1999-231687 A 19990818

IT 337488-50-3P, Hydroxyethyl vinyl ether-isobutyl vinyl ether-octafluorocyclopentene copolymer
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manuf. of fluoropolymers having satd. perfluoro rings with good soly.
in org. solvents for transparent films)

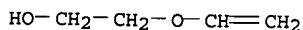
RN 337488-50-3 HCAPLUS

CM Ethanol, 2-(ethenyloxy)-, polymer with 1-(ethenyloxy)-2-methylpropane and
octafluorocyclopentene (9CI) (CA INDEX NAME)

CM 1

CRN 764-48-7

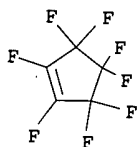
CMF C4 H8 O2



CM 2

CRN 559-40-0

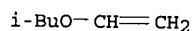
CMF C5 F8



CM 3

CRN 109-53-5

CMF C6 H12 O



AB The fluoropolymers (av. mol. wt. 1000-1,000,000; measured by gel permeation chromatog.), useful for transparent films, coatings, etc., contain repeating units of (A) 1-99 mol% 1,3- or 1,2-perfluorocyclopentylene and (B) 1-99 mol% divalent org. groups. Thus, an acetone soln. of vinyl acetate-octafluorocyclopentene copolymer was applied on a glass plate and dried to give a transparent film.

L12 ANSWER 3 OF 3 USPATFULL on STN

ACCESSION NUMBER: 2002:137125 USPATFULL

TITLE: Fluorine-containing copolymer and composition for preparing low reflectance film

INVENTOR(S): Akama, Shuyo, Saitama, JAPAN
Sugimoto, Hiromi, Saitama, JAPAN
Tsutsumi, Kentaro, Saitama, JAPAN

PATENT ASSIGNEE(S): Central Glass Company, Limited, Ube, JAPAN (non-U.S. corporation)

| | NUMBER | KIND | DATE |
|---------------------|----------------|------|--------------|
| PATENT INFORMATION: | US 6403744 | B1 | 20020611 |
| APPLICATION INFO.: | US 2000-640536 | | 20000817 (9) |

| | NUMBER | DATE |
|-----------------------|----------------|----------|
| PRIORITY INFORMATION: | JP 1999-231687 | 19990818 |
| | JP 2000-84628 | 20000324 |

DOCUMENT TYPE: Utility

FILE SEGMENT: GRANTED

PRIMARY EXAMINER: Zitomer, Fred

LEGAL REPRESENTATIVE: Crowell & Moring LLP

NUMBER OF CLAIMS: 19

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 6 Drawing Figure(s); 6 Drawing Page(s)

LINE COUNT: 954

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 337488-50-3P, Hydroxyethyl vinyl ether-isobutyl vinyl ether-octafluorocyclopentene copolymer

(manuf. of fluoropolymers having satd. perfluoro rings with good soly.
in org. solvents for transparent films)

6/11/02

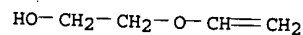
8/17/00 ✓

102(e)

RN 337488-50-3 USPATFULL
CN Ethanol, 2-(ethenyloxy)-, polymer with 1-(ethenyloxy)-2-methylpropane and octafluorocyclopentene (9CI) (CA INDEX NAME)

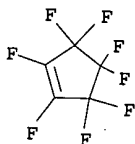
CM 1

CRN 764-48-7
CMF C4 H8 O2



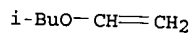
CM 2

CRN 559-40-0
CMF C5 F8



CM 3

CRN 109-53-5
CMF C6 H12 O



AB The invention relates to a fluorine-containing copolymer. This copolymer contains 1-99 mol % of a special first repeating unit of a cyclic perfluoro group; and 99-1 mol % of a second repeating unit of a bivalent organic group. The copolymer has a number average molecular weight of from 1,000 to 1,000,000 determined in a gel permeation chromatography using polystyrene as a standard material thereof. The invention further relates to a composition for forming a low reflectance film. This composition contains as a film-forming component a fluorine-containing polymer containing the first repeating unit. This polymer can be the above copolymer. A film formed by applying the composition to a substrate provides low reflectance and is improved in hardness.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

| | |
|------------|---------|
| SINCE FILE | TOTAL |
| ENTRY | SESSION |
| 0.21 | 0.21 |

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Crossover limits have been increased. See HELP CROSSOVER for details.

```
=> s octafluorocyclopentene
      0 OCTAFLUOROCYLCOPENTENE
L1    0 OCTAFLUOROCYLCOPENTENE
```

```
=> s octafluoropentane
L2          41 OCTAFLUOROPENTANE
```

```
=> s hexafluorocyclopentene
L3          20 HEXAFLUOROCYCLOPENTENE
```

```
=> s hexafluorocyclobutene
L4.          15 HEXAFLUOROCYCLOBUTENE
```

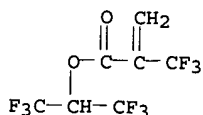
```
=> s octafluorocyclopentene
L5          37 OCTAFLUOROCYCLOPENTENE
```

```
=> s 12 or 14 or 15
L6          90 L2 OR L4 OR L5
```

$$\Rightarrow d$$
$$\begin{array}{c} \text{H}_2\text{C} \quad \text{O} \\ || \quad || \\ \text{F}_3\text{C}-\text{C}-\text{C}-\text{OBu-t} \end{array}$$

CM 2

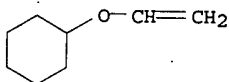
CRN 91520-41-1
CMF C7 H3 F9 O2



CM 3

CRN 2182-55-0

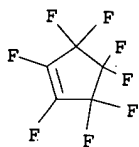
CMF C8 H14 O



CM 4

CRN 559-40-0

CMF C5 F8



1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> FIL CAPLUS HCAPLUS USPATFUL
COST IN U.S. DOLLARS

SINCE FILE
ENTRY
23.98

TOTAL
SESSION
24.19

FULL ESTIMATED COST

FILE 'CAPLUS' ENTERED AT 11:35:57 ON 22 SEP 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'HCAPLUS' ENTERED AT 11:35:57 ON 22 SEP 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATFULL' ENTERED AT 11:35:57 ON 22 SEP 2003
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> s 16

L7 1620 L6

=> s 17 and (photoresist or resist)

L8 143 L7 AND (PHOTORESIST OR RESIST)

=> s 18 and (?acid (w) generator)

L9 15 L8 AND (?ACID (W) GENERATOR)

=> s 19 and solvent

L10 7 L9 AND SOLVENT

=> duplicates remove l10

DUPLICATE PREFERENCE IS 'CAPLUS, HCAPLUS, USPATFULL'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n

PROCESSING COMPLETED FOR L10

L11 3 DUPLICATE REMOVE L10 (4 DUPLICATES REMOVED)

=> d l11 1-3 ibib hitstr

L11 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
ACCESSION NUMBER: 2003:77400 CAPLUS

DOCUMENT NUMBER: 138:145061
 TITLE: Photoresist monomers, polymers thereof and photoresist compositions containing the same
 INVENTOR(S): Lee, Geun Su; Jung, Jae Chang; Shin, Ki Soo
 PATENT ASSIGNEE(S): S. Korea
 SOURCE: U.S. Pat. Appl. Publ., 12 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

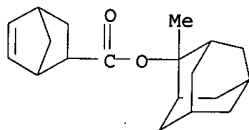
PATENT NO. KIND DATE APPLICATION NO. DATE

 US 2003022101 A1 20030130 US 2002-80319 20020221
 PRIORITY APPLN. INFO.: KR 2001-38026 A 20010629
 OTHER SOURCE(S): MARPAT 138:145061

IT 492469-83-7P 492469-85-9P 492469-88-2DP,
 4-Acetoxystyrene-hexafluorocyclobutene copolymer, hydrolyzed and reaction
 product with ethylvinylether
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (photoresist monomers and polymers for photoresist
 compns.)
 RN 492469-83-7 CAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-
 methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with
 hexafluorocyclobutene (9CI) (CA INDEX NAME)

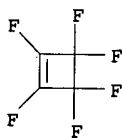
CM 1

CRN 328087-85-0
 CMF C19 H26 O2



CM 2

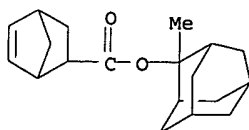
CRN 697-11-0
 CMF C4 F6



RN 492469-85-9 CAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-
 methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with
 2-ethyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate and
 octafluorocyclopentene (9CI) (CA INDEX NAME)

CM 1

CRN 328087-85-0
 CMF C19 H26 O2

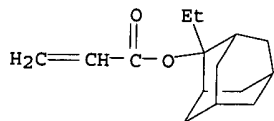


CM 2

2/21/02
 present
 application

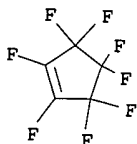
1/30/03

CRN 303186-14-3
CMF C15 H22 O2



CM 3

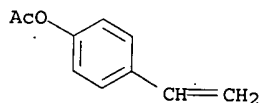
CRN 559-40-0
CMF C5 F8



RN 492469-88-2 CAPLUS
CN Phenol, 4-ethenyl-, acetate, polymer with hexafluorocyclobutene (9CI) (CA INDEX NAME)

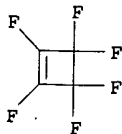
CM 1

CRN 2628-16-2
CMF C10 H10 O2



CM 2

CRN 697-11-0
CMF C4 F6



L11 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2003:5311 CAPLUS
DOCUMENT NUMBER: 138:63829
TITLE: Photoresist monomers, polymers thereof and photoresist compositions containing the same
INVENTOR(S): Lee, Geun Su; Jung, Jae Chang; Shin, Ki Soo
PATENT ASSIGNEE(S): S. Korea
SOURCE: U.S. Pat. Appl. Publ., 13 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| US 2003003379 | A1 | 20030102 | US 2002-79348 | 20020220 |
| JP 2003040931 | A2 | 20030213 | JP 2002-122435 | 20020424 |

Not to another!

2/20/02

PRIORITY APPLN. INFO.:

IT 559-40-0

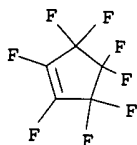
KR 2001-34603

A 20010619

RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. fluoropolymer for photoresist compns.)

RN 559-40-0 CAPLUS

CN Cyclopentene, octafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L11 ANSWER 3 OF 3 USPATFULL on STN

ACCESSION NUMBER: 2003:10537 USPATFULL

TITLE: Polymers, resist compositions and patterning process

INVENTOR(S): Harada, Yuji, Nakakubiki-gun, JAPAN
Watanabe, Jun, Nakakubiki-gun, JAPAN
Hatakeyama, Jun, Nakakubiki-gun, JAPAN
Kawai, Yoshio, Nakakubiki-gun, JAPAN
Sasago, Masaru, Hirakata-shi, JAPAN
Endo, Masayuki, Izumi-shi, JAPAN
Kishimura, Shinji, Itami-shi, JAPAN
Ootani, Michitaka, Kawagoe-shi, JAPAN
Miyazawa, Satoru, Kawagoe-shi, JAPAN
Tsutsumi, Kentaro, Kawagoe-shi, JAPAN
Maeda, Kazuhiko, Chiyoda-ku, JAPAN

PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Tokyo, JAPAN (non-U.S. corporation)

| | NUMBER | KIND | DATE |
|---------------------|---------------|------|---------------|
| PATENT INFORMATION: | US 2003008231 | A1 | 20030109 |
| APPLICATION INFO.: | US 2002-84828 | A1 | 20020228 (10) |

2/28/02

| | NUMBER | DATE |
|-----------------------|--|----------|
| PRIORITY INFORMATION: | JP 2001-53664 | 20010228 |
| | JP 2001-53669 | 20010228 |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | APPLICATION | |
| LEGAL REPRESENTATIVE: | MILLEN, WHITE, ZELANO & BRANIGAN, P.C., 2200 CLARENDON BLVD., SUITE 1400, ARLINGTON, VA, 22201 | |
| NUMBER OF CLAIMS: | 9 | |
| EXEMPLARY CLAIM: | 1 | |
| LINE COUNT: | 1461 | |

not prior art

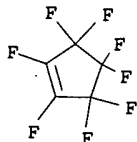
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 559-40-0, Octafluorocyclopentene

(F-contg. group-contg. polymers for chem. amplified pos.-working resists and their use in pattern formation)

RN 559-40-0 USPATFULL

CN Cyclopentene, octafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



=> d 120 1-3 ibib hitstr

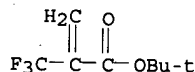
L20 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
ACCESSION NUMBER: 2003:626408 CAPLUS
DOCUMENT NUMBER: 139:157393
TITLE: Fluorine-containing photoresist with
reaction anchor for chemical amplification and
improved copolymerization characteristics
INVENTOR(S): Rottstegge, Joerg
PATENT ASSIGNEE(S): Infineon Technologies A.-G., Germany
SOURCE: Ger. Offen., 14 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|--------------------|----------|
| DE 10203838 | A1 | 20030814 | DE 2002-10203838 | 20020131 |
| US 2003157432 | A1 | 20030821 | US 2003-356791 | 20030131 |
| PRIORITY APPLN. INFO.: | | | DE 2002-10203838 A | 20020131 |

IT 572922-00-0P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(fluorine-contg. photoresist with reaction anchor for chem.
amplification and improved copolymn. characteristics)
RN 572922-00-0 CAPLUS
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer
with decafluorocyclohexene and 3a,4,7,7a-tetrahydro-1,3-isobenzofurandione
(9CI) (CA INDEX NAME)

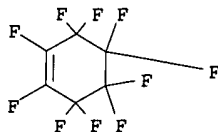
CM 1

CRN 105935-24-8
CMF C8 H11 F3 O2



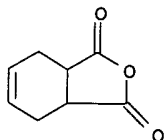
CM 2

CRN 355-75-9
CMF C6 F10



CM 3

CRN 85-43-8
CMF C8 H8 O3



L20 ANSWER 2 OF 3 USPATFULL on STN
ACCESSION NUMBER: 2003:225620 USPATFULL
TITLE: Fluorine-containing photoresist having
reactive anchors for chemical amplification and

INVENTOR(S): improved copolymerization properties
Rottstegge, Jorg, Lillienthal, GERMANY, FEDERAL REPUBLIC
OF

| | NUMBER | KIND | DATE |
|---------------------|----------------|------|---------------|
| PATENT INFORMATION: | US 2003157432 | A1 | 20030821 |
| APPLICATION INFO.: | US 2003-356791 | A1 | 20030131 (10) |

| | NUMBER | DATE |
|-----------------------|--|----------|
| PRIORITY INFORMATION: | DE 2002-10203838 | 20020131 |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | APPLICATION | |
| LEGAL REPRESENTATIVE: | LERNER AND GREENBERG, P.A., POST OFFICE BOX 2480, HOLLYWOOD, FL, 33022-2480 | |
| NUMBER OF CLAIMS: | 14 | |
| EXEMPLARY CLAIM: | 1 | |
| LINE COUNT: | 871 | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 572922-00-0P

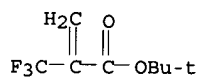
(fluorine-contg. photoresist with reaction anchor for chem.
amplification and improved copolymn. characteristics)

RN 572922-00-0 USPATFULL

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer
with decafluorocyclohexene and 3a,4,7,7a-tetrahydro-1,3-
isobenzofurandione (9CI) (CA INDEX NAME)

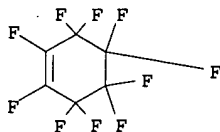
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CRN 105935-24-8
CMF C8 H11 F3 O2



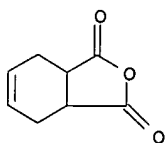
CM 2

CRN 355-75-9
CMF C6 F10



CM 3

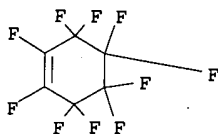
CRN 85-43-8
CMF C8 H8 O3



L20 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2002:868986 CAPLUS
DOCUMENT NUMBER: 137:370796
TITLE: Radiation-sensitive polysiloxane resin composition
INVENTOR(S): Iwasawa, Haruo; Hayashi, Akihiro; Shimokawa, Tsutomu;
Yamamoto, Masafumi
PATENT ASSIGNEE(S): JSR Co., Ltd., Japan
SOURCE: PCT Int. Appl., 155 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent

LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|--|----------|-----------------|------------|
| WO 2002090423 | A1 | 20021114 | WO 2002-JP4333 | 20020430 |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |
| JP 2003020335 | A2 | 20030124 | JP 2002-48643 | 20020225 |
| PRIORITY APPLN. INFO.: | | | JP 2001-133795 | A 20010501 |
| | | | JP 2002-48643 | A 20020225 |
| OTHER SOURCE(S): | MARPAT 137:370796 | | | |
| IT 355-75-9, Decafluorocyclohexene | | | | |
| RL: RCT (Reactant); RACT (Reactant or reagent) | | | | |
| (radiation-sensitive polysiloxane resin compn.) | | | | |
| RN 355-75-9 CAPLUS | | | | |
| CN Cyclohexene, decafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME) | | | | |



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>